REMARKS

This application has been reviewed in light of the Office Action dated August 27, 2003. Claims 24, 27, 29, 58, 59, 62, and 63 are presented for examination. Claims 24, 27, and 62 have been amended to define still more clearly what Applicants regard as their invention. Claim 26 has been canceled, without prejudice or disclaimer of subject matter. Claim 63 has been added to provide Applicants with a more complete scope of protection. Claims 24, 27, 62, and 63 are in independent form. Favorable reconsideration is requested.

Claim 27 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,021, 892 (*Kita et al.*) in view of U.S. Patent No. 4,989,163 (*Kawamata et al.*). Claims 24, 59, and 62 were rejected under Section 103(a) as being unpatentable over *Kita et al.* in view of *Kawamata et al.*, as well as being unpatentable over *Kita et al.* in view of U.S. Patent No. 5,113,494 (*Menendez et al.*). Claim 26 was rejected under Section 103(a) as being unpatentable over *Kita et al.* in view of *Kawamata et al.*, as applied to claim 24, and further in view of U.S. Patent No. 5,218,458 (*Kochis et al.*), as well as being unpatentable over *Kita et al.* and *Menendez et al.*, as applied to claim 24, and further in view of *Kochis et al.* Claim 29 was rejected under Section 103(a) as being unpatentable over *Kita et al.* in view of *Kawamata et al.* as applied to claim 27, and further in view of *Kochis et al.* Claim 58 was rejected under Section 103(a) as being patentable over *Kita et al.* in view of *Kawamata et al.,* as applied to Claim 24, and further in view of U.S. Patent No. 5,900,947 (*Kenmochi*), as well as being unpatentable over *Kita et al.* in view of *Menendez et al.*, as applied to Claim 24, and further in view of *Kenmochi.*

As shown above, Applicants have amended independent Claims 24, 27, and 62 in terms that more clearly define what they regard as their invention. Applicants submit that

these amended independent claims, and newly added independent Claim 63, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

The present invention is directed to an image processing apparatus and method which allows performing various image processing by connecting the apparatus to a separate computer. The invention is intended to provide a relatively inexpensive image processing apparatus that is capable of high-speed processing while compatible with various computers.

The aspect of the present invention set forth in Claim 24 is an image processing device that includes a scanner, a control unit, a first bidirectional general-purpose interface, and a second bidirectional general-purpose interface. The scanner reads an image of a document and outputs an image signal. The control unit, including a control circuit, is adapted for controlling the image processing device and performing image processing on the image signal output from the scanner, to provide a first processed image signal. The image processing is processing that is necessary for copying. The first bidirectional general-purpose interface transmits, under control of the control unit, the image signal output by the scanner to an external computer, which performs image processing on the transmitted image signal to provide a second processed image signal. The image processing is processing that is necessary for copying. This interface is also for receiving the second processed image signal from the external computer. The second bidirectional general-purpose interface conforms to the same standard as the first bidirectional general-purpose interface, and is adapted for outputting the first processed image signal and the second processed image signal to a printer.

The image processing device of Claim 24 has a plurality of modes, including a read mode, a print mode, a first copying mode, performed in response to a copying designation by a user, and a second copying mode, also performed in response to a copying designation by a user, in which the image signal output from the scanner is outputted to the printer without being processed the external computer. In the first copying mode, the image signal from the scanner is transmitted in order of the control unit, the first bidirectional general-purpose interface, the external computer, the first bidirectional interface, the control unit, and the second bidirectional general-purpose interface so as to perform copying based on the second processed image signal. In the second copying mode, the image signal from the scanner is transmitted in order of the control unit and the second bidirectional general-purpose interface so as to perform copying based on the first processed image signal.

A notable feature of Claim 24 is that in the first copying mode, performed in response to a copying designation by a user, an image signal from a scanner is transmitted in order of the control unit, the first bidirectional general-purpose interface, the external computer, the first bidirectional interface, the control unit, and the second bidirectional general-purpose interface so as to perform copying based on the second processed image signal. That is, the first copying mode, in response to a copying designation (depressing copy key 259), includes reading a document, processing the read image data, and printing the processed image data.

The applied art, alone or in combination, is not seen to disclose or suggest the aspects of the present invention defined by independent Claim 24, particularly with respect to the first copying mode, performed in response to a copying designation by a user, where an image signal from a scanner is transmitted in order of the control unit, the first bidirectional general-

purpose interface, the external computer, the first bidirectional interface, the control unit, and the second bidirectional general-purpose interface so as to perform copying based on the second processed image signal.

Initially, Applicants wish to comment on the Examiner's observations in the Response to Arguments section of the Office Action. Applicants do not assert that the first copying mode is performed without user intervention, as suggested by the Examiner. In fact, line 16 of Claim 24 specifically states that the first copying mode is performed in response to a copying designation by a user. Similarly, the second copying mode is also performed in response to a copying designation by a user. As in conventional copying machines, it is generally appreciated that no user intervention, except stop/termination of a copying operation, is allowed once the copying operation has been started in response to an operation of a copy start key. That is, it should be understood that no user intervention, especially operation of PRINT key 257, is to be accepted during a copying operation once the copying operation has been initiated in response to a copying designation using the COPY key 259. This general principle operation of convention copying machines similarly applies to the image processing device of claim 24.

Applicants understand *Kita et al.* as relating to a machine that has a read mode, which corresponds to the Image Input Function (column 6, line 68) and reading image data by the image scanner 2 and transferring the data to the host 8 (column 18, line 24 to column 20, line 12). Applicants further understand the *Kita et al.* device as having a print mode which corresponds to the Image Print Function (column 7, line 5) and recording image data generated in the host 8 by the image printer 3 (column 20, line 12 to column 21, line 45). Further, *Kita et al.*

has a second copying mode, corresponding to the Copy Function of *Kita et al.* (column 6, line 50).

The Office Action cites the Image Input Function and column 5, lines 65-68 of *Kita et al.*, as corresponding to the first copying mode of claim 24. Applicants have carefully re-studied this point in view of the Examiner's comments, but find that they must respectfully disagree with this. It is Applicants' understanding that column 5, lines 65-68, of *Kita et al.* merely provides a list of timings/events (specifically four different events) when the image data codec control portion 69 is operated. However, no relationship between these events is stated or suggested. The cited passage is not clear as to whether these four events are performed independently, or in sequence, and if performed in sequence, the order of the sequence. Further, Applicants understand the Image Input Function of *Kita et al.* (column 6, line 68, to column 7, line 4) as transmitting image data read by the scanner 2 to the personal computer 8, which displays the image data on the CRT display and/or files the image data in a floppy disk. The Image Input Function, however, lacks the processing of the first copying mode of Claim 24, in which an image signal is output by a scanner to an external computer which performs image processing on the transmitted image signal to provide a second processed image signal, where the image processing is necessary for a copying operation.

The Examiner asserts, in the Response to Arguments section of the Office Action, that *Kita et al.* discloses the processing of the first copying mode. The Examiner cites *Kita et al.* as disclosing transmitting scanned image data from the scanner to the host (column 7, lines 1-4), where image and data processing are carried out by the computer (column 3, lines 46-48), and that the data may be stored on a disk and then transmitted to the printer (column 20,

lines 6-67). The Examiner asserts that the combination of these three passages discloses the processing of the first copying mode. Applicants respectfully disagree with this. Specifically, Applicants understand column 3, lines 46-48, of *Kita et al.* as merely saying that "[v]arious image and data processing are carried out by the computer 8 according to the programs for respective applications." Applicants have found nothing in *Kita et al.* that would teach or suggest an external computer that performs image processing on the transmitted image signal to provide a second processed image signal, where the image processing is necessary for a copying operation, as recited in Claim 24.

Furthermore, as understood by Applicants, to make a copy of a document using the personal computer 8 of the *Kita et al.* system, a user must perform at least two designation operations, an IMAGE READ function and an IMAGE PRINT function. In contrast, the first copying mode of Claim 24 is performed and completed in response to a (i.e., one) copying designation. That is, the first copying mode requires only a single copying designation, namely, operation of COPY key 259, without operating PRINT key 257 (page 25, line 5, to page 27, line 7, of the specification, and Figure 11).[1]

Accordingly, Applicants submit that Claim 24 is clearly patentable over *Kita et al.*, taken alone.

Kawamata et al., *Menendez et al.*, *Kochis et al.*, and *Kenmochi* are not believed to add anything that would overcome the deficiencies of *Kita et al.* as a reference against Claim 24.

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[1]It is to be understood, of course, that the claim scope is not limited by the details of the described embodiments, which are referred to only to facilitate explanation.

Accordingly, Claim 24 is believed to be clearly allowable over *Kita et al.*, *Kawamata et al.*, and *Menendez et al.*, taken separately or in any proper combination (if any).

Independent Claims 27, 62, and 63 include a feature similar to that discussed above in connection with Claim 24. Accordingly, Claims 27, 62, and 63 are believed to be patentable for substantially the same reasons as discussed above in connection with Claim 24.

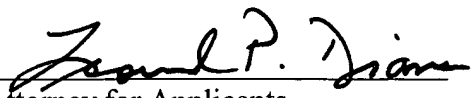
The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

A Fifth Information Disclosure Statement is submitted herewith.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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